

6/3/09
growth factor combination of the present invention. Figure 12A shows untreated disc, Figure 12B shows control, and Figure 12C shows treated disc. After two months post-infection, the untreated disc exhibits extensive degeneration, while the cross-linked matrix/BP treated disc retains normal structures similar to control disc.

Figure 13 is a radiograph of a vertebral column of a sheep sacrificed at 4 months after an injection of a matrix and growth factor combination in an *in vivo* study of the present invention. There were no apparent radiographic differences between discs in 4-month sheep.

Figure 14 is a photographic reproduction of histology slides of vertebral discs of a sheep sacrificed at 4 months after an injection of a matrix and growth factor combination of the present invention. Four months post-injection, untreated disc exhibits degenerative changes, while cross-linked matrix/BP-treated disc is similar to control disc: normal gelatinous nucleus, regular annulus and intact endplates.

Figure 15A and Figure 15B ~~is a~~ are graphs representing the results of an ELISA performed to measure the synthesis of Type II collagen and Chondroitin-6-sulfate under growth factor stimulation.

Figure 16a ~~is a graph~~ and Figure 16B ~~show~~ growth factor stimulation of proteoglycan synthesis in human intervertebral disc nucleus pulposus cells. Shown are graphs (Figure 16A, 8 day incubation; Figure 16B, 9 day incubation) indicating the results of an Alcian blue assay for proteoglycan synthesis in human intervertebral disc cells stimulated by growth factor.

Figure 16b ~~is a graph indicating the results of an Alcian blue assay for proteoglycan synthesis in another human intervertebral disc cells stimulated by growth factor.~~

Figure 17 shows growth factor stimulation of proteoglycan synthesis in baboon intervertebral disc nucleus pulposus cells. Shown is a graph depicting the results of an Alcian